



MODULE SPECIFICATION

Part 1: Information			
Module Title	Radiation Physics		
Module Code	UZYSXS-15-1	Level	Level 4
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Health & Applied Sciences	Field	Allied Health Professions
Department	HAS Dept of Allied Health Professions		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	Radiographic Science 2020-21		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: See Learning Outcomes</p> <p>Outline Syllabus: Physical principles: Concept of energy and electromagnetic radiation Ionising and non-ionising radiations in the environment Interaction of ionising radiation with matter Inverse square law; half value-thickness Biological effects of ionising radiation Radiation protection: principles and regulations; diagnostic or radiotherapy Detection and measurement of ionising radiation Radioactivity; decay process; half-life</p> <p>Radiographic equipment: Imaging principles including DR/CR Rotating anode x-ray tube X-ray geometry Image intensifier Static diagnostic imaging equipment or radiotherapy megavoltage equipment (including on board imaging tools)</p>

STUDENT AND ACADEMIC SERVICES

Teaching and Learning Methods: Students will engage in 36 hours of timetabled taught sessions including key note lectures, tutorials, practical sessions and profession specific timetabled content.

Students are also given access to bespoke, interactive learning resources for the module, containing audios, games and quizzes giving opportunities to develop knowledge and understanding as they progress through the module. In addition, email contact with staff is available throughout the module and during scheduled tutorial time.

Scheduled learning includes tutorials, key note lectures, profession specific lectures.

Independent learning includes hours engaged with essential reading, revision. Formative assessment in the form of MCQ's.

Part 3: Assessment

Component A: online examination with a 24 hour window for completion (suggested completion time 2 hours).

Rationale:

To enable students to demonstrate the core knowledge required in order to meet the learning outcomes of the module. This knowledge base will be comprehensively assessed to ensure students have required level of radiation physics knowledge in order to practice safely. The examination process is deemed to be most appropriate in order to demonstrate the breadth of student knowledge.

Formative assessment:

Formative assessment will include a variety of tasks designed to encompass all learning styles, such as quizzes, diagram drawing and labelling and completion of mock questions.

First Sit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	100 %	Online examination (24 hours)
Resit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	100 %	Online examination (24 hours)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	Reference
Describe the construction and operation of the rotating anode x-ray tube	MO1
Explain the design features of either static x-ray imaging equipment (Diagnostic Imaging) or the linear accelerator (Radiotherapy)	MO2
Describe the interaction processes of x-ray photons with matter and their significance to image production and radiotherapy	MO3
Explain the principles of the inverse square law and its relevance to practice	MO4
Demonstrate a knowledge and understanding of the principles of radiation protection and current UK regulations/recommendations with reference to patients, staff and members of the public/carers in either diagnostic imaging or radiotherapy	MO5

STUDENT AND ACADEMIC SERVICES

Contact Hours	Independent Study Hours:	
	Independent study/self-guided study	114
	Total Independent Study Hours:	114
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	36
	Total Scheduled Learning and Teaching Hours:	36
	Hours to be allocated	150
	Allocated Hours	150
Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p>https://uwe.rl.talis.com/modules/uzysxs-15-1.html</p>	

Part 5: Contributes Towards

This module contributes towards the following programmes of study: